

CENSUS BULLETIN.

No. 108.

WASHINGTON, D. C.

November 4, 1901.

AGRICULTURE.

RHODE ISLAND.

Hon. WILLIAM R. MERRIAM,
Director of the Census.

SIR: I have the honor to transmit herewith, for publication in bulletin form, the statistics of agriculture for the state of Rhode Island, taken in accordance with the provisions of section 7 of the act of March 3, 1899. This section requires that—

The schedules relating to agriculture shall comprehend the following topics: Name of occupant of each farm, color of occupant, tenure, acreage, value of farm and improvements, acreage of different products, quantity and value of products, and number and value of live stock. All questions as to quantity and value of crops shall relate to the year ending December thirty-first next preceding the enumeration.

The farm lands of Rhode Island have an area of 712 square miles, or 67.6 per cent of the total land surface of 1,053 square miles. Narragansett Bay divides the state from north to south and furnishes the greater part of a coast line 245 miles long. The coast is nearly everywhere bordered by sand beaches and extensive salt marshes, thus greatly reducing the area available for cultivation.

Newport and Bristol counties, comprising the islands and peninsulas east of Narragansett Bay, have a total land surface of 142 square miles, of which 88 square miles are included in farms. These two counties contain the largest relative percentages of improved land, and have the most fertile soil. The land west of the bay is generally hilly, especially in the north. There are numerous streams, but owing to their small size there is little alluvial soil. Most of the land is slaty and more suitable for grazing than for cultivation. About one-fourth of the total area is woodland.

The value of the 5,498 farms of the state is \$23,125,260, of which \$9,703,490, or 42 per cent, represents the value of buildings, and \$13,421,770, or 58 per cent, the value of land and improvements exclusive of buildings. The average value of land per acre, exclusive of buildings, ranges from \$14.88 in Washington county to \$68.23 in Bristol county. For the state the average value is \$29.46 per acre.

The value of the farm products of 1899 was \$6,333,864, a gain since 1889 of \$2,115,564, or 50.2 per cent. If the value of products fed to live stock, \$969,140, be deducted from the value of all farm products, there remains a gross income of \$5,364,724, equal to 19.9 per

cent of the total capital invested in farm property. As no reports of expenditures for taxes, interest, insurance, feed for stock, and similar items have been obtained by any census, no statement of net farm income can be given.

The term "Farm property," as used in the text and tables of this bulletin, includes the values of land, improvements and buildings, implements and machinery, and live stock. This valuation, June 1, 1900, was \$26,989,189, or 7.2 per cent greater than on the corresponding date in 1890.

The receipts from animal products in 1899, amounting in the aggregate to \$3,292,295, constitute 61.4 per cent of the total value of products not fed to live stock, referred to elsewhere as the "gross farm income." Dairy products had a value of \$1,923,707, or 35.9 per cent of the gross income of farms, and poultry and eggs yielded an income of \$1,055,635. Market gardening has in the past twenty years advanced to a leading position. The area used in 1899 in the production of vegetables, including potatoes, sweet potatoes, and onions, was 10,982 acres, and the value of products obtained therefrom was \$992,467. Hay and forage and the cereals are no longer the sources of any considerable direct income, their cultivation being almost wholly incident to the dairy and live-stock industries. This is shown by the fact that in 1899 farm products aggregating 76.2 per cent of the year's production of hay and grain were fed to live stock on the farms of the producers. The area devoted to cereals decreased from 19,575 acres in 1879 to 10,552 acres in 1899, and the total production from 564,580 bushels to 350,110 bushels.

The gradual abandonment of cereal production has been attended by a corresponding growth in other branches of agriculture, notably dairying, poultry raising, the culture of small fruits, and general market gardening. The area utilized in the production of vegetables was only slightly larger than that devoted to cereals, but the products had a value more than five times as great, the average income per acre from vegetables having been \$90.37, and from cereals, \$17.97.

Very respectfully,

L. G. Powers.

Chief Statistician for Agriculture.

AGRICULTURE IN RHODE ISLAND.

GENERAL STATISTICS.

NUMBER AND SIZE OF FARMS.

The 5,498 farms of Rhode Island comprise 455,602 acres, or 67.6 per cent of the total land surface of the state. The following table gives by decades, since 1850, the number of farms reported, the total and average acreage, and the per cent of farm land improved:

TABLE 1.—FARMS AND FARM ACREAGE: 1850 TO 1900.

CENSUS YEAR.	Number of farms.	NUMBER OF ACRES IN FARMS.				Per cent of farm land improved.
		Total.	Improved.	Un-improved.	Average	
1900.....	5,498	455,602	187,354	268,248	83	41.1
1890.....	5,500	469,281	274,491	194,790	85	58.5
1880.....	6,216	514,813	298,486	216,327	83	58.0
1870.....	5,368	502,308	289,030	213,278	94	57.5
1860.....	5,106	621,224	336,128	186,096	96	64.3
1850.....	5,385	553,938	356,487	197,451	103	64.4

During the past fifty years the number of farms has remained practically the same, being, in 1900, 113 more than in 1850 and 2 less than in 1890. In the same period the number of acres included in farms has decreased 17.8 per cent. As this decrease has been at a fairly constant rate, it is probable that it is due largely to the withdrawal from farms of land for town lots and factory sites. The per cent of improved farm land decreased from 64.4 in 1850 to 41.1 in 1900, the largest relative decrease having taken place in the last decade, in which period the per cent fell from 58.5 to 41.1. It is known that a considerable acreage which, ten years before, was classed as improved, was reported in 1900 as unimproved. It is probable that a large portion of this area was once devoted to the production of hay and cereals. Not being of a character to yield profitable crops of fruits or vegetables, this land was partially or wholly abandoned as soon as western competition, brought about by cheapened transportation, rendered

the growing of cereals unprofitable. The operators transferred their attention to small areas of the most fertile soil, and by dairying, poultry raising, and market gardening, increased both the quantity and the value of their annual products.

FARM PROPERTY AND PRODUCTS.

The values of farm land and improvements, implements and machinery, live stock, and farm products are given in Table 2 for each census year, beginning with 1850.

TABLE 2.—VALUES OF FARM PROPERTY AND PRODUCTS: 1850 TO 1900.

CENSUS YEAR.	Total value of farm property.	Land, improvements, and buildings.	Implements and machinery.	Live stock.	Farm products. ¹
1900.....	\$26,989,189	\$23,126,260	\$1,270,270	\$2,593,659	\$6,333,864
1890.....	25,179,479	21,873,479	941,030	2,364,970	4,218,300
1880.....	29,030,046	25,882,079	902,825	2,254,142	8,670,135
1870 ²	25,496,846	21,574,968	736,246	3,135,132	\$4,761,168
1860.....	22,179,388	19,550,553	586,791	2,042,044	.....
1850.....	19,100,640	17,070,802	497,201	1,532,637	.....

¹ For year preceding that designated.

² Values for 1870 were reported in depreciated currency. To reduce to specie basis of other figures they must be diminished by one-fifth.

³ Includes betterments and additions to live stock.

Since 1850 the total farm wealth of Rhode Island has increased \$7,888,549, and in the last decade, \$1,809,710. Of the latter amount, \$1,251,781, or 69.2 per cent, represents the increase in the value of land, improvements, and buildings; \$329,240, or 18.2 per cent, that of implements and machinery; and \$228,689, or 12.6 per cent, that of live stock.

COUNTY STATISTICS OF AGRICULTURE.

Table 3 gives an exhibit of general agricultural statistics by counties.

TABLE 3.—NUMBER AND AREA OF FARMS AND VALUES OF FARM PROPERTY, JUNE 1, 1900, VALUE OF PRODUCTS OF 1899 NOT FED TO LIVE STOCK, AND EXPENDITURES IN 1899 FOR LABOR AND FERTILIZERS, BY COUNTIES.

COUNTIES.	NUMBER OF FARMS.		ACRES IN FARMS.		VALUES OF FARM PROPERTY.				Value of products not fed to live stock.	EXPENDITURES.	
	Total.	With buildings.	Total.	Improved.	Land and improvements (except buildings).	Buildings.	Implements and machinery.	Livestock.		Labor.	Fertilizers.
The State.....	5,498	5,401	455,602	187,354	\$13,421,770	\$9,708,490	\$1,270,270	\$2,593,659	\$5,364,724	\$1,032,360	\$264,140
Bristol.....	205	201	7,585	5,313	517,520	488,180	50,910	96,349	229,048	32,420	8,430
Kent.....	774	753	71,936	24,255	1,323,230	1,281,170	153,180	300,226	607,002	99,920	23,640
Newport.....	940	918	48,652	36,431	3,070,520	2,108,660	226,760	560,751	1,156,279	186,540	76,080
Providence.....	2,287	2,248	167,437	61,545	6,129,050	3,919,790	618,540	1,097,777	2,475,979	559,720	111,540
Washington.....	1,292	1,281	159,992	59,810	2,381,450	1,900,690	221,930	588,556	896,416	153,760	41,450

Since 1890 the number of farms has decreased in every county except Providence, in which county there was an increase of 288. Providence and Washington counties report increases in the number of acres in farms of 2.9 per cent and 1.7 per cent, respectively. The remaining three counties show decreases in farm acreage as follows: Bristol, 30.1 per cent; Kent, 17.1 per cent; Newport, 5.7 per cent.

East of Narragansett Bay, where the land is level and largely devoted to market gardening and the cultivation of small fruits, the farms are comparatively small (the average area being 49.1 acres) and the per cent of improved land is comparatively high, being 79.1 per cent in 1890, and 74.2 in 1900. The slight decrease noted for the decade was limited almost wholly to large farms having considerable areas of pasture land. West of the bay, where the surface is broken and the dairy and live-stock industries are more fully developed, the average size of the farms is 91.7 acres. Much wild grazing land is included in the farms of this part of the state, hence the per cent of improved land is relatively small, being 55.3 in 1890 and but 36.5 in 1900. The much larger relative decrease in ten years in the area of improved land west of the bay indicates that the size of farms, and the character of the industries to which they are devoted, determine, in some measure, the extent of the general decrease in the area of improved land, to which attention has already been called.

The value of implements and machinery in Washington county is the same as in 1890. In each of the other counties there has been an increase, slight in Bristol and Kent, but very marked in Newport and Providence. In the last-named county the valuation nearly doubled, the increase amounting to 74.8 per cent of that for the state. The two counties reporting the largest increases in value of implements were the only ones to show increased valuations for live stock. The relatively rapid growth in dairying and market gardening in both of these counties is doubtless an important factor in explaining the large increase in the value of implements and live stock.

The total values of all farm products increased as follows: Bristol, 14.8 per cent; Washington, 26.6; Kent, 27.9; Providence, 56.7; and Newport, 93.3. The increase in the two latter counties constituted 79.5 per cent of that for the state, and is in keeping with the increases in values of implements and live stock shown for those counties.

The farmers of Bristol and Kent counties expended less for fertilizers in 1899 than in 1889. The other three counties each report a marked increase, that for Newport amounting to 49.0 per cent, and for Providence, 111.1 per cent. It appears that the counties reporting the largest relative increases in expenditures for this and similar items also show the largest relative gains in income from farm products.

NUMBER OF FARMS, CLASSIFIED BY RACE OF FARMER AND BY TENURE.

Table 4 gives a comparative exhibit of farm tenure for 1880, 1890, and 1900. In Table 5 the tenure of farms for 1900 is given by race of farmer. The farms classified in Table 4 as "Farms operated by owners," are subdivided in Table 5 into groups, designated as "Owners," "Part owners," "Owners and tenants," and "Managers." These terms denote, respectively: (1) Farms operated by individuals who own all the land they cultivate; (2) farms operated by individuals who own a part of the land and rent the remainder from others; (3) farms operated under the joint direction and by the united labor of two or more individuals, one owning the farm or a part of it, the other, or others, owning no part, but receiving for supervision or labor a share of the products; and (4) farms operated by individuals who receive for their supervision and other services a fixed salary from the owners.

TABLE 4.—NUMBER AND PER CENT OF FARMS OF SPECIFIED TENURES: 1880 TO 1900.

CENSUS YEAR.	Total number of farms.	NUMBER OF FARMS OPERATED BY—			PER CENT OF FARMS OPERATED BY—		
		Owners.	Cash tenants.	Share tenants.	Owners.	Cash tenants.	Share tenants.
1900	5,498	4,390	1,045	63	79.9	19.0	1.1
1890	5,500	4,470	912	118	81.3	16.6	2.1
1880	6,216	4,980	989	247	80.1	15.9	4.0

TABLE 5.—NUMBER OF FARMS, CLASSIFIED BY RACE OF FARMER AND BY TENURE, JUNE 1, 1900.

RACE.	Total number of farms.	Owners.	Part owners.	Owners and tenants.	Managers.	Cash tenants.	Share tenants.
The State....	5,498	3,958	212	12	203	1,045	63
White	5,470	3,942	212	12	207	1,034	63
Colored.....	28	16			1	11	

Between 1880 and 1900 the number of farms operated by owners decreased 590, or 11.8 per cent, and the number operated by tenants, 128, or 10.4 per cent. There was, however, no great change in the relative number of owners and tenants, as the percentage of owners in 1880 was 80.1, and in 1900, 79.9, a variation of only 0.2 per cent. The decrease in the number of tenant-operated farms was entirely in the share-tenant class, as the number of cash tenants was 56 greater in 1900 than in 1880.* In 1880, 20 per cent of all tenants were share tenants; in 1890, 11.5 per cent, and in 1900, but 5.7 per cent. This somewhat remarkable change in the relative number of cash tenants and share tenants is the result of a growing sentiment on the part of both landlord and tenant in favor of the cash-payment system, and

at the same time indicates greater independence and financial responsibility on the part of the tenant class.

In Table 4, 4,390 farms are classified as operated by "Owners" in 1900. Table 5 shows that 3,958 of these farms were owned by the operators; 212 were farms of which in each case a part was owned and a part leased; 12 were operated jointly by owners and tenants; and 208 were conducted by salaried managers. Of the 28 colored farmers of the state, 16 were owners, 11 were cash tenants, and 1 was a salaried manager.

OWNERSHIP OF RENTED FARMS.

The ownership of 1,019 of the 1,108 rented farms was ascertained by the enumerators. The titles to the 1,019 farms are vested in 963 owners, an average of 106 farms to every 100 owners. Of the 963 owners, 923 possess 1 farm each. The others hold titles to from 2 to 10 farms each, as follows: 34, 2; 3, 3; 1, 4; 1, 5; and 1, 10. Eight hundred and ninety-one of the owners, possessing 947 farms, reside in Rhode Island. The owners of 838 of these farms reside in the counties in which their farms are located. Of the nonresident owners, 63 reside in the North Atlantic states; 3 in the North Central states; 2 in the South Central states; 2 in the Western states; 1 resides in a South Atlantic state; and 1 in a foreign country. None of these non-residents possesses more than one rented farm, and the average value of their holdings is \$4,515. The small incomes that can be derived from such farms make it certain that there are very few nonresident landlords deriving their main support from rented farms in Rhode Island.

Of the owners residing in the state, 4,390 own farms which they operate in person, or through managers, and 891 own farms cultivated by tenants. Probably some of this latter number are included in the former, being operators owning farms in addition to the ones they personally conduct. Not counting the 89 rented farms whose owners were not ascertained, there were in Rhode Island somewhat less than 5,281 owners. Of this number, 40, or about eight-tenths of 1 per cent, possess more than one farm, and 6 of these, or about one in a thousand of the total number of owners, own more than two farms each.

There were 17 rented farms, each of which was worth \$25,000 or over, with an aggregate value of \$1,040,500, and an average of \$61,206; 53, valued at between \$10,000 and \$25,000 each, with an aggregate value of \$649,500, and an average of \$12,254; and 1,038, the average value of which was only \$3,311. It can be seen from the foregoing that only a small number of farm owners derive their support wholly or mainly from rentals, and that the number who are able to live in luxury therefrom is insignificant. The fact that 82.2 per cent of the 1,019 rented farms, with owners reported, are located

in the same county with their owners, indicates that there is no great number of farms owned by individuals or corporations who do not deal directly with their tenants but collect their rentals through agents.

FARMS AND FARM PROPERTY BY RACE OF FARMER AND BY TENURE.

Table 6 gives, by race of farmer and by tenure, the number and area of farms and the value of farm property. Table 7 presents a classification, by race and tenure, of the average values of the several forms of farm property, June 1, 1900, of the products of 1899 not fed to live stock, and of the per cent of the value of those products to the total value of farm property.

TABLE 6.—NUMBER AND AREA OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY RACE OF FARMER AND BY TENURE, WITH PERCENTAGES.

RACE OF FARMER, AND TENURE.	Number of farms.	NUMBER OF ACRES IN FARMS.			VALUE OF FARM PROPERTY.	
		Average.	Total.	Per cent.	Total.	Per cent.
The State.....	5,498	82.9	455,602	100.0	\$26,989,189	100.0
White farmers.....	5,470	82.9	453,518	99.5	26,923,739	99.8
Colored farmers.....	28	74.4	2,084	0.5	65,450	0.2
Owners.....	3,958	78.7	311,519	68.4	15,529,510	57.5
Part owners.....	212	105.6	22,378	4.9	2,356,700	8.7
Owners and tenants.....	12	121.4	1,457	0.3	60,410	0.3
Managers.....	208	138.0	28,700	6.3	3,168,870	11.7
Cash tenants.....	1,045	82.1	85,826	18.8	5,002,559	20.8
Share tenants.....	63	90.8	5,722	1.3	265,140	1.0

TABLE 7.—AVERAGE VALUES OF FARM PROPERTY AND PRODUCTS, CLASSIFIED BY RACE OF FARMER AND BY TENURE.

RACE OF FARMER, AND TENURE.	AVERAGE VALUES PER FARM OF—					Per cent of products not fed, to value of farm property.
	Farm property, June 1, 1900.				Products of 1899 not fed to live stock.	
	Land and improve- ments (except build- ings).	Build- ings.	Imple- ments and machin- ery.	Live stock.		
The State.....	\$2,441	\$1,705	\$231	\$472	\$976	19.9
White farmers	2,447	1,770	232	473	979	19.9
Colored farmers	1,327	712	120	179	352	15.1
Owners	1,696	1,603	205	420	878	22.4
Part owners	6,689	3,034	411	983	2,071	18.6
Owners and tenants	1,983	2,342	371	838	2,349	42.4
Managers	9,005	4,594	610	1,026	1,952	12.8
Cash tenants.....	3,126	1,567	215	453	927	17.3
Share tenants.....	2,022	1,522	225	440	772	18.3

The value of the farms owned by negroes, including implements, machinery, and live stock, together with the value of the implements, machinery, and live stock upon the farms which other negroes operate as tenants, is \$26,460. This amount is probably somewhat in ex-

cess of the actual wealth of the negro farmers of Rhode Island.

The farms of managers are larger, and more valuable per farm and per acre, than the farms of any other group classified by tenure. They also stand first in the average value of all forms of farm property, but report the smallest percentage of gross income upon total investments. The relatively large per cent of products not fed, to value of farm property, reported for farms of "Owners and tenants," is due to the fact that several farms of this class were very favorably situated dairy, poultry, or vegetable farms, the produce of which was sold in city markets at prices higher than those realized by the average farmer.

FARMS CLASSIFIED BY AREA.

Tables 8 and 9 give, for farms classified by area, the facts shown in Tables 6 and 7 for farms by race and by tenure.

TABLE 8.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY AREA, WITH PERCENTAGES.

AREA.	Number of farms.	NUMBER OF ACRES IN FARMS.			VALUE OF FARM PROPERTY.	
		Average.	Total.	Per cent.	Total.	Per cent.
The State.....	5,498	82.9	455,602	100.0	\$26,989,189	100.0
Under 3 acres.....	327	7.8	413	0.1	949,650	3.5
3 to 9 acres.....	507	5.8	2,925	0.6	1,683,660	6.2
10 to 19 acres.....	578	13.9	8,087	1.8	1,788,549	6.6
20 to 49 acres.....	1,169	33.0	38,650	8.5	5,261,380	19.5
50 to 99 acres.....	1,256	69.3	87,093	19.1	5,754,130	21.3
100 to 174 acres.....	1,049	121.6	130,690	28.7	5,872,640	21.8
175 to 259 acres.....	358	204.0	73,644	16.0	2,473,550	9.2
260 to 499 acres.....	192	329.9	63,343	13.9	2,085,250	7.7
500 to 999 acres.....	45	635.8	28,410	6.3	579,180	2.2
1,000 acres and over..	17	1,846.8	22,895	5.0	641,400	2.0

TABLE 9.—AVERAGE VALUES OF FARM PROPERTY AND PRODUCTS, CLASSIFIED BY AREA.

AREA.	AVERAGE VALUES PER FARM OF—					Per cent of products not fed, to value of farm property.
	Farm property, June 1, 1900.				Products of 1899 not fed to live stock.	
	Land and improvements (except buildings).	Buildings.	Implements and machinery.	Live stock.		
The State.....	\$2,441	\$1,705	\$231	\$472	\$976	19.9
Under 3 acres	1,290	1,417	86	111	699	24.1
3 to 9 acres	1,394	1,617	123	187	551	13.6
10 to 19 acres	1,307	1,320	145	252	648	20.8
20 to 49 acres	2,257	1,651	216	377	784	17.4
50 to 99 acres	2,229	1,625	233	494	1,002	21.9
100 to 174 acres	2,882	1,835	278	608	1,076	19.2
175 to 259 acres	3,678	2,251	350	780	1,329	19.2
260 to 499 acres	6,142	3,018	480	1,221	1,990	18.3
500 to 999 acres	6,740	4,051	636	1,444	2,405	18.7
1,000 acres and over	18,485	8,971	1,079	3,312	12,674	39.8

The average values given in Table 9, except those of buildings and products, are lowest for farms containing less than 3 acres, and rise in almost unbroken series to those containing 1,000 acres and over. The average values shown for the group of farms containing 1,000 acres and over are disproportionately high, owing to the fact that the group includes an exceptionally large and intensively cultivated vegetable and seed farm.

The average gross incomes per acre for the various groups classified by area are as follows: Farms under 3 acres, \$553.27; 3 to 9 acres, \$95.32; 10 to 19 acres, \$46.23; 20 to 49 acres, \$23.79; 50 to 99 acres, \$14.45; 100 to 174 acres, \$8.63; 175 to 259 acres, \$6.52; 260 to 499 acres, \$6.03; 500 to 999 acres, \$3.78; and 1,000 acres and over, \$9.41.

The very large gross income per acre shown for farms under 3 acres is explained by the fact that this group includes 75 florists' establishments and 29 city dairies, involving in their operation great relative expenditures for labor, fertilizers, and feed for stock, which expenses are not deducted in computing the gross income.

FARMS CLASSIFIED BY PRINCIPAL SOURCE OF INCOME.

Tables 10 and 11 present the leading facts concerning the number, area, value, and average value of farms classified by principal source of income. If for any farm 40 per cent of the products not fed to live stock consists of hay and grain, the farm is designated a hay and grain farm. Should 40 per cent of the products consist of vegetables, the farm is designated a vegetable farm. The farms of the other groups are classified in accordance with the same general principle. Farms with no income in 1899 are classified according to the agricultural operations upon other farms in the same locality.

TABLE 10.—NUMBER AND AREA OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY PRINCIPAL SOURCE OF INCOME, WITH PERCENTAGES.

PRINCIPAL SOURCE OF INCOME.	Number of farms.	NUMBER OF ACRES IN FARMS.			VALUE OF FARM PROPERTY.	
		Average.	Total.	Per cent.	Total.	Per cent.
The State.....	5,498	82.9	455,602	100.0	\$26,989,189	100.0
Hay and grain.....	298	101.0	30,106	6.6	1,386,880	5.1
Vegetables.....	571	47.1	26,919	5.9	3,340,630	12.4
Fruit.....	66	68.6	4,530	1.0	269,880	1.0
Live stock.....	2,188	68.2	149,146	32.7	7,195,490	26.7
Dairy produce.....	1,470	102.7	151,050	33.3	10,597,939	39.3
Flowers and plants.....	108	6.8	731	0.2	782,115	2.9
Nursery products.....	9	28.7	258	0.1	190,160	0.7
Miscellaneous.....	788	117.1	92,262	20.2	3,226,145	11.9

TABLE 11.—AVERAGE VALUES OF FARM PROPERTY AND PRODUCTS, CLASSIFIED BY PRINCIPAL SOURCE OF INCOME.

PRINCIPAL SOURCE OF INCOME.	AVERAGE VALUES PER FARM OF—					Per cent of products not fed, to value of farm property.
	Farm property, June 1, 1900.				Products of 1899 not fed to live stock.	
	Land and improvements (except build-ings).	Build-ings.	Imple-ments and machin-ery.	Live stock.		
The State.....	\$2,441	\$1,765	\$231	\$472	\$976	19.9
Hay and grain	2,504	1,719	215	216	442	9.5
Vegetables	3,246	1,954	263	387	1,255	21.5
Fruit	1,792	2,010	140	147	581	14.2
Live stock	1,351	1,406	169	362	616	18.7
Dairy produce.....	3,854	2,207	325	823	1,492	20.7
Flowers and plants.....	3,835	3,147	215	45	2,738	37.8
Nursery products.....	17,256	3,333	356	184	4,674	22.1
Miscellaneous.....	1,919	1,589	219	367	760	18.6

A large number of the 2,188 farms which derive their principal source of income from live stock are poultry farms of less than 20 acres each. Many of the larger farms of the same group contain much cheap grazing land and have but limited areas under cultivation. These facts explain the low average values shown in Table 11 for farms of this class.

For the several classes of farms, the average values per acre of products not fed to live stock are: Flower and plant, \$404.62; nursery stock, \$163.06; vegetable, \$26.50; dairy produce, \$14.50; live stock, \$9.02; fruit, \$8.46; miscellaneous, \$6.49; hay and grain, \$4.38. A comparison with the average areas given in Table 10 shows that the gross income per acre is largest for the class of farms with the smallest average area, and, in general, decreases as the average size of farms increases. It should be noted, however, that the highly remunerative small farms are devoted to those branches of agriculture which involve the greatest relative expense.

FARMS CLASSIFIED BY REPORTED VALUE OF PRODUCTS NOT FED TO LIVE STOCK.

Tables 12 and 13 present data relating to farms classified by the reported values of products not fed to live stock.

TABLE 12.—NUMBER AND AREA OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY REPORTED VALUE OF PRODUCTS NOT FED TO LIVE STOCK, WITH PERCENTAGES.

VALUE OF PRODUCTS NOT FED TO LIVE STOCK.	Number of farms.	NUMBER OF ACRES IN FARMS.			VALUE OF FARM PROPERTY.	
		Average.	Total.	Per cent.	Total.	Per cent.
The State.....	5,498	82.9	455,602	100.0	\$26,989,189	100.0
\$0.....	22	44.8	986	0.2	122,490	0.4
\$1 to \$49.....	114	36.5	4,163	0.9	233,120	0.9
\$50 to \$99.....	230	41.4	9,624	2.1	481,259	1.8
\$100 to \$249.....	997	49.6	49,410	10.9	2,213,720	8.2
\$250 to \$499.....	1,330	64.7	86,097	18.9	3,706,170	13.7
\$500 to \$999.....	1,203	88.8	112,125	24.6	5,396,050	20.0
\$1,000 to \$2,499.....	1,093	115.9	126,628	27.8	7,679,920	28.5
\$2,500 and over.....	449	148.5	66,669	14.6	7,156,460	26.5

TABLE 13.—AVERAGE VALUES OF FARM PROPERTY AND PRODUCTS, CLASSIFIED BY REPORTED VALUE OF PRODUCTS NOT FED TO LIVE STOCK.

VALUE OF PRODUCTS NOT FED TO LIVE STOCK.	AVERAGE VALUES PER FARM OF—					Per cent of prod- ucts not fed, to value of farm property.
	Farm property, June 1, 1900.				Products of 1899 not fed to live stock.	
	Land and improve- ments (except build- ings).	Build- ings.	Imple- ments and machin- ery.	Live stock.		
The State.....	\$2, 441	\$1, 765	\$281	\$472	\$976	19.9
\$0.....	2, 150	3, 171	166	81	.....	.....
\$1 to \$49.....	831	1, 053	75	86	43	2.1
\$50 to \$99.....	944	970	78	100	76	3.6
\$100 to \$249.....	986	992	94	148	167	7.5
\$250 to \$499.....	1, 160	1, 241	133	253	353	12.8
\$500 to \$999.....	2, 008	1, 649	209	406	690	16.1
\$1, 000 to \$2, 499.....	3, 506	2, 406	356	758	1, 524	21.7
\$2, 500 and over.....	9, 283	4, 318	705	1, 633	4, 810	30.2

Of the farms of the state, 22, ranging in area from 3 to 259 acres, report no incomes. The average values of the land and improvements, buildings, and implementments and machinery of these farms are relatively very high, exceeding in the first two items those of farms with reported incomes from \$500 to \$999. In all probability many of them are summer homes or country estates held for pleasure and not for the profit to be derived from operation.

The 114 farms with reported incomes of less than \$50 vary in area from less than 3 acres to 259 acres. Some farms of this class also are the country estates of business and professional men in the cities. Others are farms partially abandoned in 1899, from which a small amount of hay was gathered, and on which but a few acres, at the most, were cultivated. Some had changed owners or tenants, and the farmers in charge, June 1, 1900, were unable to give any definite information concerning the products of the preceding year. To this extent, the reports fall short of giving a complete exhibit of the farm incomes in 1899.

Of the 449 farms reporting an income of over \$2,500 each, 25 had areas of less than 3 acres; 82, from 3 to 49 acres; 120, from 50 to 99 acres; 200, from 100 to 499 acres; 12, from 500 to 999 acres; and 10 had areas of 1,000 acres or over. The fact that of the 17 farms containing over 1,000 acres each, 5 reported incomes of from \$1,000 to \$2,499, and 10, incomes of over \$2,500 each, shows that the largest farms of the state are not simply large tracts of land too poor to permit of profitable farming in small areas, but are productive in fair proportion to their size. The percentages of gross income upon investments form a continuous upward series from the group with the smallest to that having the largest average income.

CLASSIFICATION, NUMBER, AND VALUE OF LIVE STOCK.

At the request of the various live-stock associations of the country, a new classification of domestic animals was adopted for the census of 1900. Neat cattle are

grouped by age in accordance with their present and prospective relations to the dairy industry and the supply of meat products. Horses and mules are classified by age, and neat cattle and sheep by age and sex. The new classification permits close comparison with the figures published in preceding census reports.

Table 14 gives the number, value, and average value of specified domestic animals on farms, the number of such animals in barns and inclosures not on farms, and statistics concerning poultry and bees.

TABLE 14.—NUMBER AND VALUE OF DOMESTIC ANIMALS, FOWLS, AND BEES: JUNE 1, 1900.

LIVE STOCK.	Age in years.	ON FARMS.			NOT ON FARMS.
		Number.	Value.	Average value.	
Calves	Under 1	5,338	\$45,537	\$8.53	106
Steers	1 and under 2	149	2,694	17.48	5
Steers	2 and under 3	135	4,876	36.12	5
Steers	3 and over	727	40,805	56.13	13
Bulls	1 and over	831	23,559	28.35	3
Heifers	1 and under 2	3,815	73,276	19.21	127
Cows kept for milk	2 and over	23,660	937,137	39.61	1,367
Cows and heifers not kept for milk	2 and over	1,379	38,003	27.50	17
Colls	Under 1	91	4,740	52.09	18
Horses	1 and under 2	179	13,779	76.98	40
Horses	2 and over	11,120	962,429	85.55	19,923
Mule colts	Under 1	2	65	32.50	9
Mules	1 and under 2	36	2,770	76.94	1
Mules	2 and over	5	210	42.00	31
Asses and burros	All ages	4,578	15,164	3.31	39
Lambs	Under 1	5,901	22,575	3.83	5
Sheep (ewes)	1 and over	728	8,553	4.88	
Sheep (rams and wethers)	All ages	11,508	90,614	7.87	1,360
Swine	All ages	23	131	5.70	75
Gouls:					
Fowls:					
Chickens		500,618			
Turkeys		4,604			
Geese		6,335			
Ducks		8,957			
Bees (swarms of)		1,681	6,795		
Value of all live stock			2,593,659		

¹ The number reported is of fowls over 8 months old. The value is of all, old and young.

² Including Guinea fowls.

The comparatively high value of steers 3 years old and over is the result of including in this class the high-priced working oxen still used in certain districts of the state. The number so employed is continually decreasing. In 1900 the number of all steers over 2 years was only 862, while the number of working oxen reported in 1890 was 2,609; in 1880, 3,523; in 1870, 5,821; in 1860, 7,857; and in 1850, 8,189. The total value of all live stock on farms, June 1, 1900, was \$2,593,659. Of this amount the value of horses constituted 37.8 per cent; dairy cows, 36.1 per cent; other neat cattle, 8.8 per cent; poultry, 11.8 per cent; swine, 3.5 per cent; sheep, 1.6 per cent; and all other live stock, 0.4 per cent. No report was secured of the value of animals not on farms, but it is probable that such animals have somewhat higher average values than those on farms. Allowing the same averages, the total value of all live stock in the state, exclusive of poultry and bees not on farms, is substantially \$4,393,000.

CHANGES IN THE LIVE-STOCK INDUSTRY IN FIFTY YEARS.

Table 15 shows the progress of the live-stock industry since 1850. In the figures for "Other neat cattle" in 1900, the number of calves is included, but it is uncertain whether any calves were included in preceding census reports under this designation.

TABLE 15.—NUMBER OF DAIRY COWS, OTHER NEAT CATTLE, HORSES, MULES AND ASSES, SHEEP, AND SWINE: 1850 TO 1900.

CENSUS YEAR.	Dairy cows.	Other neat cattle.	Horses.	Mules and asses.	Sheep. ¹	Swine.
1900.....	23,660	12,374	11,390	43	6,629	11,508
1890.....	23,943	10,834	9,864	51	11,400	12,055
1880.....	21,460	14,124	9,661	46	17,211	14,121
1870.....	18,806	15,559	7,770	43	23,938	14,607
1860.....	19,700	19,405	7,121	10	32,624	17,478
1850.....	18,698	17,594	6,163	1	44,296	19,509

¹ Lambs not included.

It appears that there was a decrease during the last decade in the number of dairy cows and an increase in the number of "Other neat cattle" reported. As both of these changes are opposed to the general movement for the preceding forty years, and as the causes operating to produce this movement have been in nowise modified since 1890, they are believed to be more apparent than real. It is doubtless true that a large number of the 1,379 "Cows and heifers not kept for milk," included in the above table with "Other neat cattle," were in reality dairy cows that were dry at the time of enumeration. The number of calves reported in 1900 was 5,338. If calves were not included in the reports for previous census years, the decrease from 1890 to 1900 in the number of "Other neat cattle" was relatively greater than during any preceding decade.

Since 1850 the number of dairy cows has increased 26.5 per cent and the number of horses 84.7 per cent. On the other hand, "Other neat cattle" have decreased in number 29.5 per cent; swine, 41.0 per cent; and sheep, 85.0 per cent. These changes are in keeping with two general phases of the revolution in the last half century in the character of New England agriculture. The farmer has met the demands of a rapidly growing urban population for dairy produce, vegetables, and fruits, by keeping more cows, and by devoting a larger portion of his time and capital to market-gardening and horticulture, which industries require much new and improved machinery and consequently more horse power. The decrease in the number of beef cattle, sheep, and swine is incident to the recognized shifting of the meat-producing industry to the Western states, and is simply another phase of the adjustment of agriculture in the East to meet the competition of the West.

ANIMAL PRODUCTS.

The quantities and values of wool, mohair, dairy produce, and other animal products, including the value of fowls raised and of animals sold and slaughtered for food, are given in Table 16. The value of all such products in 1899 was \$3,292,295, or 61.4 per cent of the gross farm income.

TABLE 16.—QUANTITIES AND VALUES OF ANIMAL PRODUCTS, VALUE OF POULTRY RAISED, AND VALUES OF ANIMALS SOLD AND SLAUGHTERED ON FARMS, IN 1899.

PRODUCTS.	Unit of measure or weight.	Quantity.	Value.
Wool	Pounds	33,682	\$7,493
Mohair and goat hair	Pounds	10	2
Milk	Gallons	112,323,512	1,923,707
Butter	Pounds	483,085	
Cheese	Pounds	6,751	
Eggs	Dozens	3,217,310	
Poultry .....	.....	.....	656,845
Honey	Pounds	23,450	398,790
Wax	Pounds	890	5,166
Animals sold .....	.....	.....	167,478
Animals slaughtered .....	.....	.....	142,824
Total .....	.....	.....	3,292,295

¹ Includes all milk produced.

DAIRY PRODUCE.

In no other branch of Rhode Island agriculture has there been such constant and rapid development as in dairying. With the steady growth of city population there has been an increasing demand for dairy produce of all kinds, more especially for milk and cream. These products, being less subject to Western competition than butter and cheese, have furnished a steadily increasing percentage of the income from all dairy produce. These conditions, together with the transfer of the making of butter and cheese from the farm to the creamery and cheese factory, account for a decrease since 1890 of 49.4 per cent in the quantity of butter, and of 72.6 per cent in the quantity of cheese, produced on farms. During the same period, although the number of dairy cows decreased 283, there was an increase of 2,312,965 gallons, or 21.8 per cent, in the quantity of milk produced.

Of the \$1,923,707 given in Table 16 as the value of all dairy products in 1899, \$207,296, or 10.8 per cent, represents the value of such products consumed on farms, and \$1,716,411, or 89.2 per cent, the amount realized from dairy produce sold. Of the latter sum, \$1,563,279 was derived from the sale of 9,685,988 gallons of milk; \$81,343 from 314,737 pounds of butter; \$71,142 from 95,321 gallons of cream; and \$647 from 4,779 pounds of cheese. The value of dairy products in 1899 constituted 53.4 per cent of the value of all animal products, and 35.9 per cent of the gross farm income.

POULTRY AND EGGS.

In comparing the poultry report of 1900 with that of the Eleventh Census, it should be borne in mind that in 1900 the enumerators were instructed to report only fowls 3 months old and over, while in 1890 no such limitation was made. It is probable, therefore, that more young fowls were included in the reports of 1890 than in those of the present census. The disproportionate increase in the number of eggs produced, when compared with the increase in the number of chickens, adds force to this conclusion. Between 1890 and 1900 there was an increase of but 3.8 per cent in the number of chickens, while the number of dozens of eggs increased 59.2 per cent. In the same period ducks decreased in number 34.6 per cent; turkeys, 60.5 per cent; and geese, 62.3 per cent. The state census of 1895 showed similar decreases in the number of these fowls, and stated, upon the authority of poultry experts, that the difficulty of keeping the stock free from certain diseases, together with the effects of Western competition, tended to make the raising of such poultry unprofitable. The recent development of rapid transportation and cold-storage processes has made the West a much stronger competitor than it was in 1890.

HONEY AND WAX.

The annual production of honey and wax has more than doubled since 1889. In that year the products consisted of 13,740 pounds of honey and 358 pounds of wax, while in 1899, 23,450 pounds of honey and 890 pounds of wax were produced. This industry appears to share with dairying, poultry raising, and market gardening, the attention formerly given to the raising of live stock and the cultivation of cereals.

WOOL AND MOHAIR.

The annual clip of wool is steadily decreasing. The total production in 1889 was 41,021 pounds, and in 1899 only 33,682 pounds. In fifty years the number of sheep has decreased from 44,296 to 6,629, and the clip of wool from 129,692 to 33,682 pounds.

DISTRIBUTION OF HORSES AND DAIRY COWS ON FARMS, BY SPECIFIED CLASSES.

Table 17 presents, for a few of the leading groups of farms, the number of farms reporting horses and dairy cows, the total number for each group, and the average number per farm. In computing the averages presented, only those farms which report the kind of stock under consideration are included.

TABLE 17.—DISTRIBUTION OF HORSES AND DAIRY COWS, BY SPECIFIED CLASSES OF FARMS, JUNE 1, 1900.

CLASSES.	HORSES.			DAIRY COWS.		
	Farmers-reporting.	Number.	Average per farm.	Farmers-reporting.	Number.	Average per farm.
Total.....	4,644	11,890	2.5	4,047	23,660	5.8
White farmers.....	4,623	11,341	2.5	4,034	23,638	5.9
Colored farmers.....	21	49	2.3	13	22	1.7
Owners ¹	3,530	8,460	2.4	3,100	16,892	5.4
Managers.....	178	739	4.2	155	1,773	11.4
Cash tenants.....	888	2,063	2.3	741	4,758	6.4
Share tenants.....	58	128	2.4	48	237	4.9
Under 20 acres.....	974	1,583	1.6	642	1,640	2.6
20 to 99 acres.....	2,157	4,962	2.3	1,938	9,541	4.9
100 to 174 acres.....	941	2,535	2.7	938	6,255	6.9
175 to 269 acres.....	928	1,049	3.2	318	2,708	8.6
260 acres and over.....	244	1,261	5.2	241	3,518	14.6
Hay and grain.....	149	367	2.5	99	300	3.0
Vegetable.....	506	1,285	2.5	299	1,058	3.5
Fruit.....	47	81	1.7	22	60	2.7
Live stock.....	1,840	3,557	1.9	1,514	4,543	3.0
Dairy.....	1,874	4,487	3.3	1,470	15,609	10.6
Miscellaneous ²	728	1,612	2.2	643	2,087	3.2

¹Including "Part owners" and "Owners and tenants."

²Including "Flower and plant" and "Nurseries."

The group of farms operated by managers, shown in Table 6 to have the largest average area of any group classified by tenure, also reports the largest average number of horses and dairy cows of any group in this classification. This is most noticeable in the case of dairy cows, the average being 11.4; while for owners the average is 5.4; for cash tenants, 6.4; and for share tenants, 4.9. This is due to the fact that many of the farms operated by salaried managers are adjuncts of state, county, and parish asylums and charitable institutions, where large numbers of horses and dairy cows are required.

ACREAGE AND PRODUCTION OF CROPS.

The following table gives the acreage, quantities, and values of the crops of 1899:

TABLE 18.—ACRES, QUANTITIES, AND VALUES OF THE VEGETABLE PRODUCTS OF 1899.

PRODUCTS.	Acres.	Unit of measure or weight.	Quantity.	Value.
Corn.....	8,149	Bushels.....	288,220	\$164,188
Wheat.....	15	Bushels.....	810	245
Oats.....	1,530	Bushels.....	47,120	16,631
Barley.....	222	Bushels.....	6,100	8,465
Rye.....	591	Bushels.....	7,710	4,751
Buckwheat.....	45	Bushels.....	650	427
Grass seed.....	.....	Bushels.....	485	630
Clover seed.....	.....	Bushels.....	101	606
Hay and forage.....	69,776	Tons.....	76,920	1,081,482
Hops.....	.....	Pounds.....	40	5
Dry beans.....	216	Bushels.....	3,330	6,177
Dry peas.....	45	Bushels.....	940	1,195
Potatoes.....	5,816	Bushels.....	843,853	440,872
Sweet potatoes.....	1	Bushels.....	102	60
Onions.....	292	Bushels.....	116,180	64,227
Miscellaneous vegetables.....	4,878	.....	.....	487,808
Small fruits.....	525	.....	.....	51,292
Grapes.....	126	Centals.....	1,897	24,786
Orchard fruits.....	16,129	Bushels.....	165,571	104
Nuts.....	.....	.....	84	106,720
Forest products.....	.....	.....	.....	814,806
Flowers and plants.....	177	.....	.....	1,900
Seeds.....	8	.....	.....	42,295
Nursery products.....	86	.....	.....	1,627
Miscellaneous.....	.....	.....	.....	.....
Total.....	98,657	.....	.....	3,041,569

¹Estimated from number of trees or vines.

²Including value of raisins, wine, etc.

The total value of all crops for 1899 was \$3,041,569. Of this amount, hay and forage contributed 35.6 per cent; vegetables, including potatoes and onions, 32.6 per cent; fruits and nuts, 7.0 per cent; cereals, 6.2 per cent; forest products, 6.5 per cent; flowers and plants, 10.4 per cent; and other products, 1.7 per cent.

The average yield per acre of hay and forage was 1.1 tons, and the average values were \$14.06 per ton, and \$15.50 per acre. The acreage devoted to hay and forage was 70.8 per cent of the area devoted to all crops, but it yielded only 35.6 per cent of the total receipts. The average values per acre of products from the land devoted to the various crops were as follows: Flowers and plants, \$1,778.56; nursery products, \$491.80; onions, \$219.96; miscellaneous vegetables, \$100.10; potatoes, \$75.72; orchard products, \$25.38; cereals, \$17.97. Naturally, the production of crops yielding the highest average returns per acre was attended by very high average expenditures for labor and fertilizers, and by relatively large investments in farming implements.

CHANGES IN CROPS SINCE 1889.

Table 19 presents the acreage, product, and yield per acre of each of the most important crops in 1889 and 1899.

TABLE 19.—ACREAGE AND PRODUCTION OF PRINCIPAL FARM CROPS: 1889 AND 1899.

CROPS.	NUMBER OF ACRES.		NUMBER OF BUSHELS.		NUMBER OF BUSH-ELS PER ACRE.	
	1899.	1889.	1899.	1889.	1899.	1889.
Barley.....	222	363	6,100	8,000	27.5	22.1
Buckwheat.....	45	41	650	349	14.4	8.5
Corn.....	8,149	7,819	288,220	253,810	35.4	32.5
Oats.....	1,530	3,648	47,120	100,520	30.8	27.6
Rye.....	591	779	7,710	9,617	13.0	12.3
Wheat.....	15	11	810	91	20.7	8.3
Hay and forage.....	69,776	94,111	176,920	1101,332	11.1	11.1
Potatoes ²	5,817	5,595	843,955	830,855	145.1	59.1

¹Tons.

²Including sweet potatoes.

Owing to unusually favorable climatic conditions in 1899, the average yield per acre of most farm crops was greater than in 1889. The latter year was especially unfavorable to the growing of potatoes, the yield per acre having been only 40.7 per cent as large as in 1899. The average yield of hay per acre was approximately the same for both years, a reduction of 25.9 per cent in acreage having been attended by a corresponding reduction in the tonnage cut.

The figures of the present census show that the decline in cereal production in Rhode Island, which began about the middle of the present century, is still in progress, the total amount of grain produced in 1899 having been nearly 6 per cent less than in 1889. During this period the areas devoted to the principal cereals decreased as follows: Barley, 38.8 per cent; oats, 58.1 per cent; and rye, 24.1 per cent. Since 1859 the production of barley has decreased 85.1 per cent; buckwheat, 81.8 per cent; corn, 37.5 per cent; oats, 80.7 per cent; rye, 72.7

per cent; and wheat, 72.6 per cent. With a few exceptions, the decrease continued from decade to decade without interruption. The areas devoted to wheat and buckwheat are now so small that variations therein are of no significance. In the case of corn it is believed that the increase of 330 acres and 34,410 bushels since 1889 is closely related to the recent rapid growth of dairying. The fact that a similar movement has been noted in other New England states strengthens this conclusion.

ACREAGE AND PRODUCTION OF CORN.

Table 20 gives the total acreage and production of corn, with averages per farm and per acre for each of certain specified classes of farms.

Farms operated by managers report the largest average area in corn, and also the largest average yield per acre. As might be expected, the average acreage per farm increases with the size of the farm, but the best yields per acre are obtained from farms of medium size.

TABLE 20.—ACREAGE AND PRODUCTION OF CORN ON FARMS OF SPECIFIED CLASSES IN 1899.

CLASSES.	Number of farms reporting.	NUMBER OF ACRES.		NUMBER OF BUSHELS.	
		Total.	Average per farm.	Total.	Average per acre.
Total.....	2,652	8,149	3.1	288,220	35.4
White farmers	2,640	8,130	3.1	287,760	35.4
Negro farmers	12	19	1.6	460	24.2
Owners ¹	2,027	5,733	2.8	202,850	35.4
Managers	106	628	5.9	23,520	37.5
Cash tenants.....	488	1,666	3.4	57,970	34.8
Share tenants.....	36	117	3.3	3,880	33.2
Under 20 acres.....	299	490	1.6	16,220	33.1
20 to 99 acres.....	1,257	3,153	2.5	112,080	35.5
100 to 174 acres.....	648	2,108	3.3	76,970	36.5
175 to 259 acres.....	257	1,161	4.5	41,450	35.7
260 acres and over	191	1,237	6.5	41,550	33.6

¹Including "Part owners" and "Owners and tenants."

ORCHARD FRUITS.

The changes in orchard fruits since 1890 are shown in the following table:

TABLE 21.—ORCHARD TREES AND FRUITS: 1890 AND 1900.

FRUITS.	NUMBER OF TREES.		BUSHELS OF FRUIT.	
	1900.	1890.	1899.	1889.
Apples.....	213,598	207,230	339,445	239,367
Apricots.....	37	28	12	6
Cherries.....	2,198	3,014	1,329	689
Peaches.....	43,063	11,816	6,140	1,149
Pears.....	23,344	20,794	12,452	10,037
Plums and prunes.....	4,327	1,183	571	138

A noteworthy development of the fruit-growing industry has occurred during the last decade. This is especially marked in the cultivation of peaches, the number of trees having increased 36,247, or 306.8 per cent, and the quantity of fruit produced 4,991 bushels,

or 434.4 per cent. Substantial gains were made in every county of the state. In Newport county the number of trees increased from 399 to 3,227, or 709 per cent; in Providence county, from 2,096 to 24,373, or 1,063 per cent; and in Washington county, from 854 to 9,634, or 1,028 per cent.

All counties show in 1899 great increases over the quantities of fruit reported in 1889. The principal factors in this increase are the planting of young trees, more scientific methods of caring for orchards, and a more favorable year. The average yield per tree was 31.0 per cent greater than ten years before.

The number of apple trees increased 3.1 per cent, the entire gain having been in Providence and Washington counties. All other counties report a decrease, that in Bristol county having been from 6,591 trees to 3,599 trees, or 45.4 per cent. The number of bushels gathered, however, was greater in every county than in 1889, the gain for the state having been 41.8 per cent. Newport county reported the largest relative increase, from 8,712 to 30,343 bushels.

Pear trees increased in number 12.3 per cent, decreases in Bristol, Kent, and Washington counties having been offset by an increase from 10,210 to 13,432 trees in Providence county. Bristol county was the only one to report a smaller quantity of pears in 1899 than in 1889. The crop of the state increased 24.1 per cent.

The unusually favorable season of 1899 was responsible for an increase of 92.9 per cent in the cherry crop, although the number of trees had decreased 27.2 per cent. The number of plum and prune trees increased 265.8 per cent and the quantity of fruit produced, 313.8 per cent.

Providence county contains a large proportion of the fruit trees of the state, reporting in 1900, 56.4 per cent of the apple trees; 50.7 per cent of the peach trees; 57.5 per cent of the pear trees; 66.3 per cent of the cherry trees; and 45.9 per cent of the plum and prune trees. Of the total product, this county reports 44.1 per cent of the apples; 20.4 per cent of the peaches; 49.0 per cent of the pears; 77.7 per cent of the cherries; and 51.3 per cent of the plums and prunes. Washington county stands second, with about 20 per cent of all trees and fruits produced.

For the state the total value of all orchard products in 1899 was \$155,571. Of this amount Bristol county reported \$4,339; Kent county, \$21,986; Newport county, \$15,572; Providence county, \$77,040; and Washington county, \$36,634.

VEGETABLES AND SMALL FRUITS.

In 1899 the value of all vegetables, including potatoes, sweet potatoes, and onions, was \$992,467, of which amount 44.4 per cent represents the value of potatoes. The total area used in the growing of miscellaneous vegetables, not including potatoes and onions, was 4,873 acres, of which 1,189 acres were devoted to sweet corn;

325 acres to tomatoes; 302 acres to cabbages; and 258 acres to cucumbers. A considerable portion of the total acreage was included in family gardens, the products of which were not reported in detail.

Irrigation was reported on 2 farms only, and the total area irrigated was 40 acres. This entire acreage was in garden crops, and the value of the produce grown in 1899 was \$32,515, an average of over \$800 per acre.

The cultivation of small fruits was reported by 779 farmers. From 565 acres, an average of 0.73 acre per farm, they obtained in 1899 fruit valued at \$51,292. The acreage and products of berries were as follows: Cranberries, 300 acres and 209,888 quarts; strawberries, 154 acres and 381,870 quarts; raspberries and loganberries, 47 acres and 83,300 quarts; currants, 26 acres and 54,020 quarts; blackberries and dewberries, 17 acres and 23,600 quarts; gooseberries, 7 acres and 5,820 quarts; and unclassified berries, 14 acres and 31,200 quarts. Of the grand total of 789,698 quarts, strawberries yielded 48.4 per cent.

CULTURE OF FLOWERS, AND USE OF GLASS IN AGRICULTURE.

In 1899, 177 acres of land were devoted to the cultivation of flowers and ornamental plants, and the products sold therefrom were valued at \$314,806. The number of establishments reporting was 139, making the average area 1.3 acres and the average value of products \$2,264.79.

In 108 of these establishments commercial floriculture was the principal business. The capital invested in land and improvements, buildings, implements, and live

stock was \$782,115, of which \$339,825 represents the value of the buildings. The receipts from flowers and plants were \$288,659, and from other products, \$7,515. The proprietors expended \$72,982 for labor and \$5,950 for fertilizers.

The florists' establishments reported greenhouses with a glass surface of 962,204 square feet, covering 721,653 square feet of ground. In addition, 93 farmers and market gardeners used glass in growing flowers, plants, or vegetables. They had an area under glass of 675,447 square feet, making, with that reported by the florists, a total area under glass of 1,397,100 square feet.

LABOR AND FERTILIZERS.

The amount expended in 1899 for labor, including board furnished, was \$1,032,360, an average of \$188 per farm. The average expenditure was naturally greatest on the most intensively cultivated farms, being \$1,345 for nurseries, \$676 for florists' establishments, \$356 for vegetable farms, and \$301 for dairy farms. The lowest average cost of labor, \$70 per farm, was on live-stock farms. The variations in average expenditure correspond closely with the size of farms and the value of products.

The total cost of fertilizers purchased in 1899 was \$264,140, an average of \$48 per farm, and an increase of 52.8 per cent over the sum expended in 1889. In that year each farmer expended, on an average, but \$31 per farm, \$17 less than in 1899. Of the total amount expended in 1899, 43.3 per cent was for fertilizers used on vegetable farms, the average for such farms, \$201, being greater than for any other class.